

REMINGTON ARMS COMPANY, INC.

INTERDEPARTMENTAL CORRESPONDENCE

Remington

PETERS

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J. P. Linde
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"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" _____

RESEARCH TEST and MEASUREMENT REPORT - Report No. 831361 Supplement
M/SEVEN - .222 TRIAL & PILOT EVALUATION

Prepared by: F. L. Supry

Date Prepared: 6-24-83

Proofread and Cleared By:

J.H. Hammons, / R.E. Nightingale,
Foreman-Test Lab / Foreman-Measurement Lab

R. E. Nightingale 7-19-83
Signature Date

C.E. Ritchie,
Sr. Supervisor - Testing,
Meas. & Mech. Analysis Lab

C. E. Ritchie 7/19/83
Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 831361 Supplement
REPORT TITLE: Model Seven .222 Caliber Trial & Pilot Evaluation
MODEL(S): Seven
GAUGE OR CALIBER: .222 Caliber
DATE: 6-24-83
WORK ORDER NO.: 81343-904
PART NAME: Rifle
DESIGNER/ENGINEER: Requested by G. Hill

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED _____
4. ACCURACY TEST - NO. OF GUNS TESTED 8
5. MEASUREMENTS - TYPE: 4
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - 8 OUT OF 40 GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS _____; TARGET: _____

RIM FIRE _____ CENTER FIRE 50

June 24, 1983

TO: R. E. NIGHTINGALE
FROM: F. L. SUPRY
REPORT TITLE: MODEL SEVEN - .222 CALIBER TRIAL & PILOT EVALUATION

ABSTRACT

A request was received from G. Hill, Supervisor, Process Engineering, to perform a Trial & Pilot evaluation of the Model Seven .222 caliber production firearm.

The first Trial & Pilot sample of this firearm was rejected by a visual inspection committee on May 17, 1983. (Refer to Report No. 831361, dated 5-18-83.)

SCOPE OF WORK

Perform a Trial & Pilot evaluation consisting of Visual Inspection, Field Function, and Accuracy Testing on an eight gun sample from a forty gun production run.

TEST RESULTS

The eight gun sample was accepted in each phase of the Trial & Pilot evaluation. Individual results and comments on each phase of the evaluation are located in the Report Text section of this report.

REPORT TEXT

1. Visual — It was the consensus of the visual inspection committee that there were no major deterrents in the appearance of the (8) rifles inspected. However, the following observations were made on the rifles:

Serial No. 7613006 - Poor latch color
Barrel pad uneven from side to side
Over-runs on checkering.

Serial No. 7613454 - Poor latch color
Front of bolt handle marred
Over-runs on checkering.

Serial No. 7613278 - Poor latch color.
Poor location of bolt marks on lugs
Finish on recoil pad body.

Serial No. 7612795 - Poor latch color
Trigger guard marred left side.

Serial No. 7613306 - Poor latch color
Latch unhooked from trigger guard.

Serial No. 7612969 - Poor latch color
Burr pad dirty.
Pitt marks in finish.

Serial No. 7613510 - Poor latch color
Barrel inletting uneven
Rear trigger guard screw marred.

Serial No. 7613513 - Poor latch color
Dirt under finish - rear of trigger guard
Finish on left side appears to be two different colors.

2. Field Function — 100 rounds were fired through each rifle in a field function test. The following results were obtained:

3 rifles had no malfunctions
1 rifle had 1 malfunction
3 rifles had 2 malfunctions
1 rifle had 10 malfunctions

The rifle with 10 malfunctions (Gun No. 3, Serial No. 7613306) was examined by Process Engineers. It was determined that the magazine spring had been altered, resulting in a loose fit. A spring from another rifle was assembled into Gun No. 3 and the rifle functioned without any further malfunctions.

The overall malfunction rate, not including Gun No. 3, was 1%, which compared favorably to the Model 700 ADL Restyle .222 Caliber, accepted May 1983 and reported on in Report No. 831292.

Data sheets located in Appendix "A" contain individual results by rifle, shooter and ammo type.

REPORT TEXT - cont'd.

3. Accuracy - The Remington standard for .222 caliber is 2.2" center to center in a 5 shot group.

Three (3) five shot groups were fired with four of the Trial & Pilot rifles.

Each rifle was within Remington standards.

Data Sheets located in Appendix "B" contain the individual results.

TEST PROCEDURE1. Visual

A.) The Visual Inspection Committee consisted of T. Plunkett, R. Murphy, R. Nightingale, F. Supry (Research); W. Warren (Quality Control), and Z. Kowalski (Engineering).

B.) Each rifle was wiped down with a clean cloth and inspected by each member of the committee.

C.) Rifles used for the visual inspection.:

Serial No. 7613513	7613454
7613006	7612795
7613306	7612969
7613278	7613510

2. Field Function

Each rifle was subjected to a Field Function Test, conducted at the Ilion Fish & Game Club, consisting of 100 rounds of Remington and competitive ammunition cycling the action slow, medium and fast. The round robin system was used in this test. The weather was warm, sunny with temperatures around 80°F.

3. Accuracy

One-hundred yard accuracy was shot on four of the rifles by R. Williams and C. Stephens (Research Test Lab). Three, five shot groups were shot utilizing .222 Remington 50 gr. "Power Lokt" hollow point ammunition, Code No. S22 ND 4072.

Before shooting the rifles for accuracy, each bore was wire brushed with Hoppe's No. 9 Solvent and patched dry.

The rifles were cooled and cleaned between groups, and one "warmer" was fired prior to each group.

The following rifles were used for the 100 yard accuracy test:

7613454	7612795
7612969	7613510

4. Ammunition

Function Test - Remington R 222R1	Code	U10A	D0780
Remington R 222R3	Code	S22	ND4072
Remington R 222R4	Code	T15U	D2458
Federal 222A	Code	3B	1268
Winchester X222R	Code	24SL21	24
Accuracy Test - Remington R 222R3	Code	S22	ND4072

R2514957

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

APPENDIX "A"

DATE: 6-22-83

MODEL: 50061

CALIBER: .222

SERIAL NO. ALL

PREVIOUS
ROUND

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

SUMMARY SHEET BY RIFLE	SECTION	NO. OF ROUNDS FIRED	FIRING	MALFUNCTIONS	DON'T FEED	DON'T FEED BACK	DON'T LOCK UP	FEED FROM MAG.		SHELL STUCK MAG.	POWER OVERRIDE	DON'T LOCK UP	RTN CHAMBER				SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T FEEDBACK	FEEDBACKS	ADJUSTMENTS	FEEDBACKS	MALFUNCTIONS PER	MALF. RATE PER			
								1st	2nd				RIGHT	LEFT																
								LATCH	LATCH				RIGHT	LEFT																
1) 7613513													2																	
2) 7613006													1																	
3) 7613306													5	1	1		3													
4) 7613278																														
5) 7613454																														
6) 7612995													1				1													
7) 7612969																														
8) 7613510													1				1													
																			</											

Suppl. 1.6. 02.01

INTF: 6-22-83

MODEL: SEVEN

NAME: 222

SERIAL NO. ALL

**PREVIOUS
NUMBER**

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: 900 / 700

TTL. MALFUNCTIONS:	17	7
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HALFJUNCTION RATE: 2.12.52 10

"MALFUNCTIONS"

[illegible]

**CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON**

R2514960

DATE: 6-22-83

MODEL: SEVEN

GAUGE: .272

SERIAL NO. 111

PREVIOUS
NUMBER

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RND. FIRED:

TTL. MALFUNCTIONS:

MALFUNCTION RATE:

"MALFUNCTIONS"

SUMMARY SHEET BY <u>Ammo</u>	SOURCES	NO. OF RND. FIRED	FEED FROM MAG.	1st LATCH	2nd LATCH	FEED FROM MAG.	SHELL STOPS MAG.	POWER OVERRIDE	DON'T LOCK UP	CHAMBER				SHELL JUMPS MAG.	FOLLOWER BLENDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	EJECTOR	ADJUSTERS	REPLACEMENTS	MALFUNCTIONS PER	MALF. RATE PER
										BRK	LC	BRK	LC											
R-60-PSP										3				1										
R-50-HP												1												
R-55-MC										1			1	1										
F-50-SP																								
W-50-PSP										6	1		1	1										
TOTAL (PER MAL.)										10	1	1	2	3										

APPENDIX "B"

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GUN # 5

SER. 7613454

ACCURACY: Minimum of 3 - 5-shot Groups

Ammunition Used REM. CAL. 222
50 G. POWER-LOCK H.P.
 Previous Rounds INCK R222R9
CODE S22 ND 4072

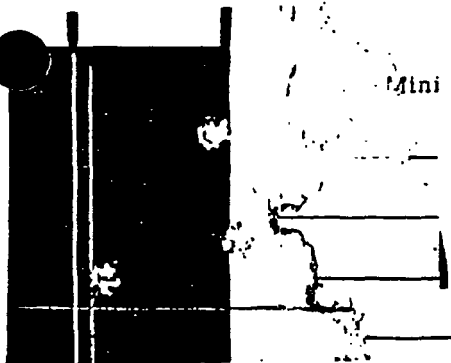
	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.4	1.0	1.3
2	1.1	.3	1.0
3	1.3	.4	1.3
4			
5			

Avg. 1.26 .52 1.2

REM. STDS. 2.2"-5 SHOT

Tester R. WILLIAMS

Date 6-16-83

	Avg.				
	Avg.				
	Avg.				
	Avg.				
	Avg.				

Tester _____

Date _____

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M/7

Gun # 6

ACCURACY: Minimum of 3 - 5-shot Groups

Ammunition Used REM CAL. 222
50 GR. POWER-LOK H.P.
~~Previous Rounds~~ INDIX R222R3
CODE S22 ND4012

SER. 7612795

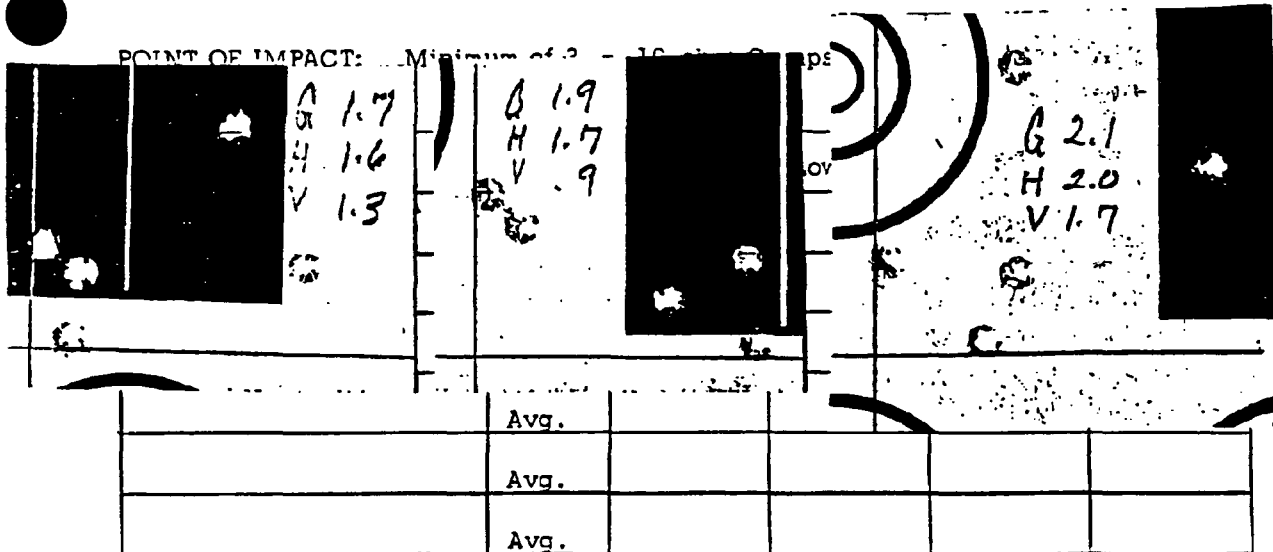
	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.7	1.3	1.6
2	1.9	.9	1.7
3	2.1	1.7	2.0
4			
5			

Avg. 1.9 1.3 1.76

REM. STDS. 2.2"-5 SHOT

Tester R. WILLIAMS

Date 6-16-83



Tester _____

Date _____

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ACCURACY: M/7 Minimum of 3 - 5-shot Groups

Ammunition Used REM CAL. 222
~~Previous Rounds~~ 50 gr. POWER-LOK H.P.
INDEX R222R3
CODE S22 ND4072

GUN # 7
SER. 7612969

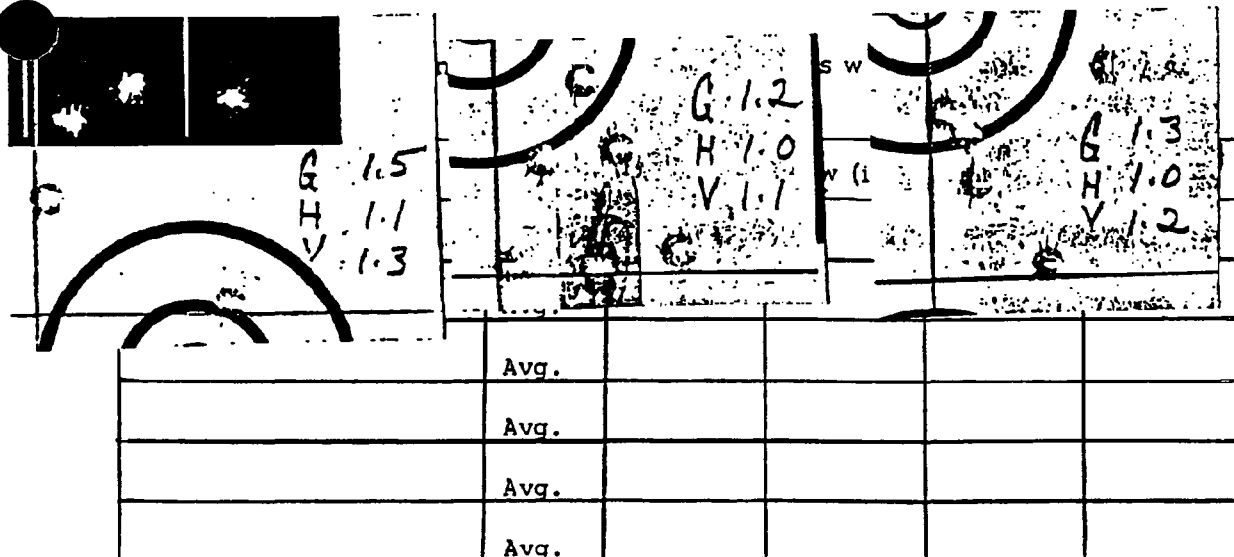
	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.5	1.3	1.1
2	1.2	1.1	1.0
3	1.3	1.2	1.0
4			
5			

Avg. 1.3 1.2 1.0

REM. STDS. 2.2" - 5 SHOT

Tester R. WILLIAMS

Date 6-16-83



Tester _____

Date _____

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ACCURACY: Minimum of 3 - 5-shot Groups

Ammunition Used

REM. CAL. 222

Previous Rounds

50 G. POWER-LOK H.F.

INDEX R222 R3

CODE S22ND4072

GUN # 8

SER. 7613510

	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.0	.8	.9
2	2.0	1.1	1.7
3	1.3	1.3	.7
4			
5			

Avg. 1.4 1.0 1.1

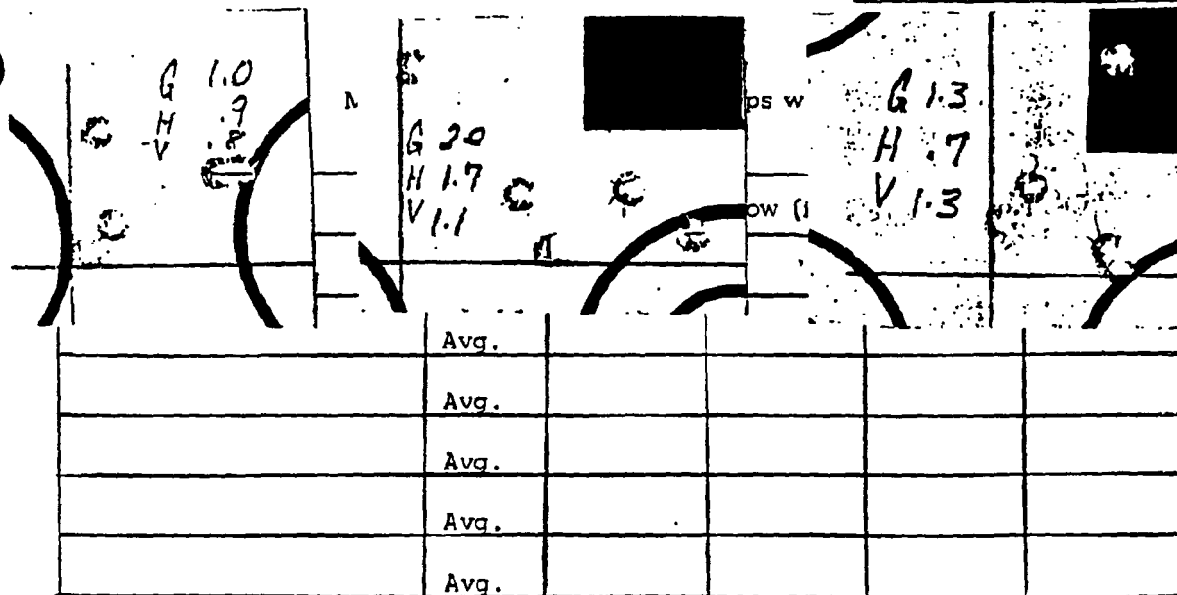
REM. CTOS. 2.2"-5 SHOT

Tester

R. WILLIAMS

Date

6-16-83



Tester _____

Date _____

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